

AMENDMENTS TO THE SPECIFICATION

On page 7, please replace the second full paragraph with the following paragraph:

Using the equipment specific settings, Controller 40 computes the following. First, Controller 40 calculates the maximum expected I or Q output of Combiner 10. This calculation may be based on the following equation: $c*((10^{y/10})*(x))^{1/2}/2^{1/2}$, where c is a signal processing gain for a channel element (CE), y is a maximum allowed two-second average power overshoot, and x is a maximum allowed ten-minute average power. For example, using typical values, I-max is calculated as equal to $(1.0597 \text{ rms counts/dgu}) * (10^{3\text{dB}/10} * 77760 \text{ dgu}^2)^{0.5} / (2)^{0.5}$. This equals 295 rms counts. Note that for this calculation Controller 40 considers the maximum allowed 10-minute average power (77760 dgu²), the maximum allowed 2-second average power overshoot (3dB) and the CE signal processing gain (1.0597 rms counts/dgu). The $(2)^{0.5}$ factor converts the total signal into its quadrature components of I and Q. Thus the maximum Q value is set to equal the maximum I value.

On page 7, please replace the third full paragraph with the following paragraph:

Using the maximum I and Q values, Controller 40 calculates the desired digital gain for a particular D/A converter of a particular capacity. This calculation may be based on the following equation: $(2^{b-1}-1)/(c*10^{a/20})$, where b is the bit size capacity of the D/A converter and a is a constraining peak-to-average ratio set point for the base station. For the case of a 12 bit D/A converter, the desired digital gain for each quadrature component is computed as $(2^{(12-1)}-1) / (295*10^{8\text{dB}/20})$. For this calculation, the controller 40 considers the maximum expected I and Q outputs (295), the constraining peak-to-average ratio set-point (8dB) and the size of the D/A converter (12 bits). For this example, that number is 2.76. This represents the desired digital gain scaling factor.

Please [✓]replace the paragraph bridging pages 7 and 8 with the following paragraph:

163 Next, Controller 40 computes the closest analog gain reduction setting based on the analog gain savings designed in the specific radio used by the base station, the current analog gain reduction setting of the base station and the desired digital gain computed in the prior step. The calculation may be based on the following equation: $f = -r + d + 20 \log_{10}(e)$ rounded off to the nearest allowed analog gain reduction increment, where r is an analog gain reduction designed in a radio component, d is a current analog gain reduction setting and e is a desired digital gain. Using typical values: -9dB (analog gain savings of radio); 3dB (current analog gain reduction); and 8.8dB (the closest allowed analog gain reduction for a desired digital gain scaling factor of 2.76, computed as $20 \log_{10} 2.76$ rounded to the nearest tenth), the actual analog gain reduction is $-9B + 3dB + 8.8 \text{ dB} = 2.8dB$. This 2.8dB analog gain reduction is sent to radio 70.